

Claim Amendments

Please amend claims 1, 6-8, 12-14, 19, 22, 27, 31, 39, 50, 54 and 56 as follows:

1. (currently amended) A method, comprising:

obtaining, for each of a plurality of consecutive time intervals, one or more parameters from an audio signal, said one or more parameters ~~relating to~~ indicative of audio characteristics of the audio signal,

~~segmenting~~ partitioning the audio signal into a plurality of segments based on the parameters obtained for the consecutive time intervals; and
encoding the segments with different encoding settings.

2. (canceled)

3. (previously presented) A method according to claim 1, wherein the characteristics include voicing characteristics in said segments of the audio signal.

4. (previously presented) A method according to claim 1, wherein the characteristics include energy characteristics in said segments of the audio signal.

5. (previously presented) A method according to claim 1, wherein the characteristics include pitch characteristics in said segments of the audio signal.

6. (currently amended) A method according to claim 1, wherein said ~~segmenting~~ partitioning is carried out concurrent to said encoding.

7. (currently amended) A method according to claim 1, wherein said ~~segmenting~~ partitioning is carried out before said encoding.

8. (currently amended) A method according to claim 1, wherein a plurality of voicing values are assigned to the audio characteristics of the audio signal in said segments, and wherein said partitioning ~~segmenting~~ is carried out based on the assigned voicing values.

9. (previously presented) A method according to claim 8, wherein the plurality of values includes a value designated to a voiced speech signal and another value designated to an unvoiced signal.
10. (previously presented) A method according to claim 8, wherein the plurality of values further includes a value designated to a transitional stage between the voice and unvoiced signal.
11. (previously presented) A method according to claim 8, wherein the plurality of values further includes a value designated to an inactive period in the audio signal.
12. (currently amended) A method according to claim 1, wherein said encoding comprises selecting a quantization mode for improving bit allocation and for reducing parameter update rate, wherein the ~~segmenting~~ partitioning is carried out based on the selected quantization mode.
13. (currently amended) A method according to claim 1, wherein said ~~segmenting~~ partitioning is carried out based on a selected target accuracy in reconstructing of the audio signal, wherein the target accuracy is selected based on a distortion criteria comparing upsampled quantized values and modified parameter signal.
14. (currently amended) A method according to claim 5, wherein said ~~segmenting~~ partitioning comprises providing a linear pitch representation in at least some of said segments.
15. (previously presented) A method according to claim 1, wherein the audio signal is encoded into audio signal data, said method further comprising:
- forming a parameter signal based on the audio signal data having a first number of signal data;
 - downsampling the parameter signal to a second number of signal data for providing a further parameter signal, wherein the second number is smaller than the first number; and
 - upsampling the further parameter signal to a third number of signal data in decoding, wherein the third number is greater than the second number.

16. (previously presented) A method according to claim 15, wherein the third number is equal to the first number.

17. (previously presented) A method according to claim 15, wherein the signal data comprises quantized parameters.

18. (previously presented) A method according to claim 15, wherein the signal data comprises unquantized parameters.

19. (currently amended) A decoder, comprising:

an input for receiving audio data indicative of a plurality of segments of an audio signal, wherein one or more parameters are extracted from the audio signal for each of a plurality of consecutive time intervals, the parameters ~~relating to~~ indicative of audio characteristics of the audio signal, and wherein the plurality of segments are obtained by partitioning the audio signal based on the parameters extracted for the consecutive time intervals, and the audio data is indicative of the parameters in an adjusted representation; and

a module, responsive to the audio data, for generating a further audio signal based on the adjusted representation and the encoding settings.

20. (previously presented) A decoder according to claim 19, wherein the audio data is recorded on an electronic medium, and wherein input of the decoder is operatively connected to the electronic medium for receiving the audio data.

21. (previously presented) A decoder according to claim 19, wherein the audio data is transmitted through a communication channel, and wherein the input of the decoder is operatively connected to the communication channel for receiving the audio data.

22. (currently amended) An encoding device comprising:

an input for receiving audio data indicative of parameters obtained from an audio signal in a plurality of consecutive time intervals, the parameters ~~relating to~~ indicative of audio characteristics of the audio signal; and

an adjustment module for adjusting one or more of the parameters for providing an adjusted representation of the parameters, wherein said adjusting comprises ~~segmenting~~ partitioning the audio signal into a plurality of segments based on the parameters obtained for the consecutive time intervals and encoding the segments based on one or more of a plurality of encoding settings.

23. (previously presented) An encoding device according to claim 22, further comprising a quantization module, responsive to the adjusted representation, for coding the parameters in the adjusted representation.

24. (previously presented) An encoding device according to claim 22, further comprising an output end, operatively connected to a storage medium, for providing data indicative of the coded parameters in the adjusted representation to the storage medium for storage.

25. (previously presented) An encoding device according to claim 22, further comprising an output end, operatively connected to a communication channel, for providing signals indicative of the coded parameters in the adjusted representation to the communication channel for transmission.

26. (previously presented) A computer readable storage medium embedded with a computer program comprising programming code for carrying out the method of claim 1.

27. (currently amended) An electronic device comprising:

an input module for receiving audio data indicative of a plurality of segments of an audio signal, wherein one or more parameters are extracted from the audio signal for each of a plurality of consecutive time intervals, the parameters ~~relating to~~ indicative of audio characteristics of the audio signal, and wherein the plurality of segments are obtained by partitioning the audio signal

based on the parameters extracted for the consecutive time intervals, and the audio data is indicative of the parameters in an adjusted representation; and

a decoder, responsive to the audio data, for generating a synthesized audio signal based on the adjusted representation.

28. (previously presented) An electronic device according to claim 27, wherein the audio data is recorded in an electronic medium, and wherein the input is operatively connected to the electronic medium for receiving the audio data.

29. (previously presented) An electronic device according to claim 27, wherein the audio data is conveyed through a communication channel, and wherein the input is operatively connected to the communication channel for receiving the audio data.

30. (previously presented) An electronic device according to claim 27, comprises a mobile terminal.

31. (currently amended) A communication network, comprising:

a plurality of base stations; and

a plurality of mobile stations adapted for communicating with the base stations, wherein at least one of the mobile stations comprises:

an input module for receiving audio data from at least one of the base stations, the audio data indicative of a plurality of segments of an input audio signal, wherein one or more parameters are extracted from the audio signal for each of a plurality of consecutive time intervals, the parameters ~~relating to~~ indicative of audio characteristics of the audio signal, and wherein the plurality of segments are obtained by partitioning the input audio signal based on the parameters extracted for the consecutive time intervals and encoded with a plurality of encoding settings based on the audio characteristics, the audio data indicative of the parameters in an adjusted representation; and

a decoder, responsive to the audio data, for generating a synthesized audio signal based on the adjusted representation.

32. (previously presented) A decoder according to claim 19, the parameters including pitch contour data containing a plurality of pitch values representative of an audio segment in time, and wherein the pitch contour data in the audio segment in time is approximated by a plurality of consecutive sub-segments in the audio segment for providing a plurality of end points, and wherein the end points include a first end point and a second end point for defining each of said sub-segments; and

a reconstruction module for reconstructing the audio segment based on the received audio data.

33. (previously presented) A method according to claim 1, wherein the encoding settings comprise bit allocation, quantization accuracy, quantization method and parameter update rate.

34. (previously presented) A method according to claim 1, wherein the audio signal contains sinusoidal components and said parameters include frequency values, amplitude values and phase values indicative of the sinusoidal components.

35. (previously presented) A method according to claim 1, wherein the parameters include pitch, voicing, amplitude and energy of the audio signal.

36. (previously presented) A method according to claim 1, wherein the parameters include pitch contour data containing a plurality of pitch values representative of an audio segment in time.

37. (previously presented) A decoder according to claim 19, wherein the encoding settings include bit allocation, quantization accuracy, quantization method and parameter update rate.

38. (previously presented) An encoding device according to claim 22, wherein the encoding settings include bit allocation, quantization accuracy, quantization method and parameter update rate.

39. (currently amended) A computer readable storage medium according to claim 26, wherein the encoding settings include bit allocation, quantization accuracy, quantization method and parameter update rate.

40. (previously presented) A communication network according to claim 31, wherein the encoding settings include bit allocation, quantization accuracy, quantization method and parameter update rate.

41. (previously presented) A method according to claim 1, wherein the audio signal comprises a plurality of frames and the audio signal in each frame has a waveform and wherein a further audio signal is produced in the decoding stage independently of the waveform.

Claims 42-48. (canceled)

49. (previously presented) A method according to claim 1, wherein the parameters are obtained from the audio signals in regular time intervals.

50. (currently amended) A method according to claim 1, wherein said ~~segmenting~~ partitioning is based on the similarity in the parameters among consecutive time intervals.

51. (previously presented) A decoder according to claim 19, wherein the parameters are extracted from the audio signals in regular time intervals.

52. (previously presented) A decoder according to claim 19, wherein the plurality of segments are obtained based on similarity in the parameters among consecutive time intervals.

53. (previously presented) An encoding device according to claim 22, wherein the parameters are obtained from the audio signals in regular time intervals.

54. (currently amended) An encoding device according to claim 22, wherein said ~~segmenting~~ partitioning is based on similarity in the parameters among consecutive time intervals.

55. (previously presented) An electronic device according to claim 27, wherein the plurality of segments are obtained based on similarity in the parameters among consecutive time intervals.

56. (currently amended) A communication network according to claim 31, wherein said ~~segmenting~~ partitioning is based on similarity in the parameters among consecutive time intervals.